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ABSTRACT

Data on earned degrees conferred are presented by level of degree, both estimated (1986-87 and 1987-88), and forecast (1988-89 to 1992-93). It is forecast that the number of bachelor's degrees for 1988-89 will remain unchanged from the 1987-88 level, while master's degrees will be down slightly. For 1988-89 through 1992-93, it is projected that the number of associate's degrees and bachelor's degrees will decrease, while the number of master's degrees, doctor's degrees, and first-professional degrees will remain stable. Technical notes explain the methodology, forecast accuracy, and data sources. (JDD)

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NATIONAL CENTER FOR EDUCATION STATISTICS

Targeted Forecast

March 1989

Earned Degrees Conferred: 1986-87 to 1992-93

1988-89 College Graduates

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The National Center for Education Statistics (NCES) forecasts that the number of bachelor's degrees (989,000) will remain unchanged from the 1987-88 level, a record high number. Master's degrees will be 9 percent below the 1976-77 peak of 317,000.

5-Year Outlook

In the next 5 years (1988-89 through 1992-93), NCES projects that the number of associate's degrees will decrease.

The number of master's degrees will remain stable over the next 5 years. No significant change in the number of first-professional and doctor's degrees awarded is expected through 1992-93.

Forecast

Earned degrees conferred, with forecasts: 1986-87 to 1992-93

(In thousands)

Status of data	Year	Level of degree				
		Associate's	Bachelor's	Master's	Doctor's	First-professional
Estimate	1986-87	427	987	291	34.2	73.7
	1987-88	430	989	292	34.0	72.0
Forecast	1988-89	425	989	290	33.6	74.3
	1989-90	427	984	290	33.7	74.3
	1990-91	426	981	289	33.9	74.2
	1991-92	417	984	290	34.0	74.1
	1992-93	410	981	289	34.2	74.1

NOTE: These forecasts were prepared November 1988.

Data Series:
TF-89-3.0

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U.S. Department of Education
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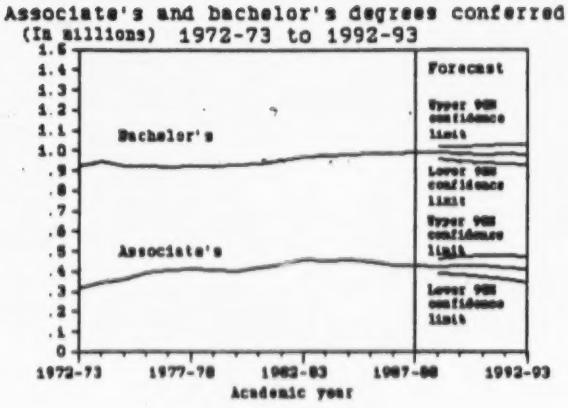

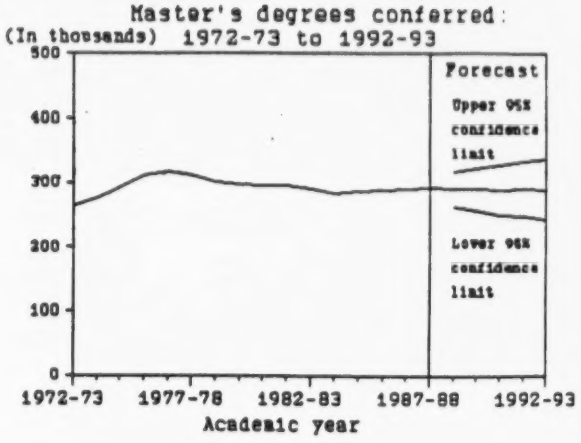

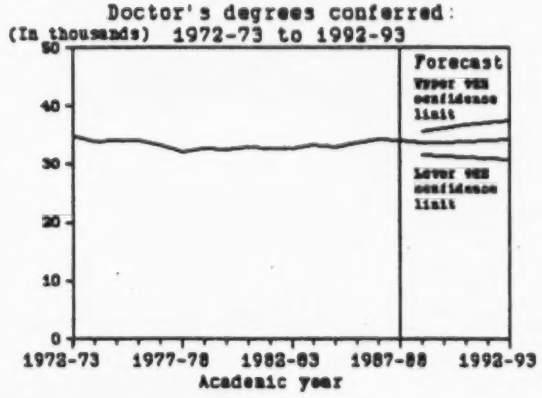

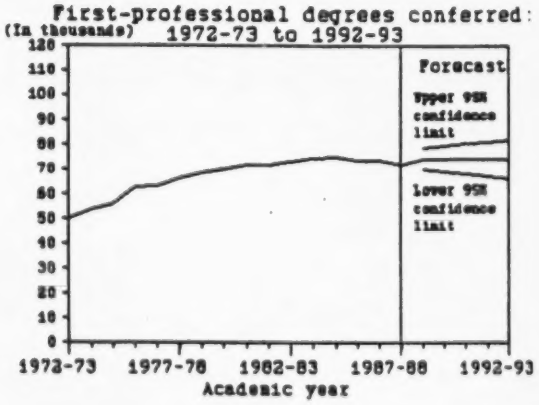

Technical Notes

Methodology

Projections of earned degrees by level and sex of recipient were developed using double exponential smoothing and multiple linear regression. For regression analysis, college-age population and undergraduate enrollments were used as independent variables.

Early survey estimates of 1986-87 data were used to develop forecasts of associate's and bachelor's degrees because these figures differed substantially from earlier projections. Master's, doctor's, and first-professional degree forecasts were calculated on the basis of 1985-86 data.

Percent changes were calculated using unrounded numbers.

For information on projections of degrees by sex of recipient and further details on the methods used to develop these forecasts, see *Projections of Education Statistics to 1997-98.*

Forecast Accuracy

The mean absolute percentage error (MAPE) was used to measure forecast accuracy. An analysis of projection errors (differences between actual and projected numbers) from similar models used in the past five editions of *Projections of Education Statistics* indicates that MAPEs for bachelor's degree projections were 1.9 percent for 1 year ahead, 3.3 percent for 2 years ahead, and 4.5 percent for 5 years ahead. For the 1-year-ahead prediction, this means that one would expect the forecast to be within 1.9 percent of the actual value, on the average. For doctor's degrees, the MAPEs were 5.3, 6.3, and 9.5 percent, respectively, and those for first-professional degrees were 1.9, 2.7, and 2.6 percent, respectively. MAPEs for master's degrees (based on three editions of *Projections*) were 2.3, 4.1, and 8.9 percent, respectively.

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Mean absolute percentage error, by lead time

Level of degree	Lead time, in years				
	1	2	3	4	5
Bachelor's	1.9	3.3	4.4	4.8	4.5
Master's	2.3	4.1	5.3	8.0	8.9
Doctor's	5.3	6.3	5.8	7.4	9.5
First-professional	1.9	2.7	2.9	3.0	2.6

Data Sources

The earned degree data used in these forecasts were obtained from the Degrees and Other Formal Awards survey of the Higher Education General Information Survey (HEGIS) and the Integrated Postsecondary Education Data System (IPEDS) Sample Survey of Early National Estimates conducted by the U.S. Department of Education, National Center for Education Statistics. Population estimates and projections were obtained from *Current Population Reports, United States Population Estimates, by Age , Sex, and Race: 1980 to 1987* and *Projections of the Population of the United States, by Age, Sex, and Race: 1988 to 2080* (Series P-25) by the U.S. Department of Commerce, Bureau of the Census.

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